

REMARKS

Claims 15 through 17 have been canceled. Claims 2 through 4 have been previously canceled. Claims 12 and 20 have been amended. Claims 1, 5 through 14, and 18 through 20 remain in the application.

Claims 1 and 5 through 20 were rejected under 35 U.S.C. § 103 as being unpatentable over Kloess et al. (U.S. Patent No. 6,357,618) in view of Abu-Isa (U.S. Patent No. 6,395,357). Applicants respectfully traverse this rejection.

U.S. Patent No. 6,357,618 to Kloess et al. discloses a fuel tank assembly for a motor vehicle. A cover element 20 generally covers an opening 12. The cover element 20 has a cylindrical portion 24 and a flange 26 which is integral with the cylindrical portion 24 and which extends substantially radially outward and beyond the cylindrical portion 24. Kloess et al. does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt.

U.S. Patent No. 6,395,357 to Abu-Isa discloses a fuel permeation barrier fuel tank. The fuel permeation barrier fuel tank 10 has base walls 18,24, side walls 20,26, and flanges 22,28 formed from a plurality of layers 30,32,34,36,38,40. The third layer 34 is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. The third layer 34 has a predetermined thickness of approximately 0.11 mm. The third layer 36 also has a predetermined percentage of material weight such as approximately 3.0%. Abu-Isa does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt.

In contradistinction, claim 1 claims the present invention as a permeation barrier fuel module cover assembly for a fuel tank of a vehicle including a cover for a fuel module having a base wall, a raised portion extending axially from the base wall, and a skirt extending axially from the base wall opposite the raised portion. The base wall extends radially outwardly beyond the skirt and is attached to the fuel tank. The permeation barrier fuel module cover assembly also includes a fuel permeation barrier layer attached to the cover to cover a surface area inside of the skirt to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Claim 12 has been amended similar to claim 1 and includes other features of the present invention.

The United States Court of Appeals for the Federal Circuit (CAFC) has stated in determining the propriety of a rejection under 35 U.S.C. § 103, it is well settled that the obviousness of an invention cannot be established by combining the teachings of the prior art absent some teaching, suggestion or incentive supporting the combination. See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. 929 (Fed. Cir. 1984). The law followed by our court of review and the Board of Patent Appeals and Interferences is that “[a] prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.” In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976). See also In re Lalu, 747 F.2d 703, 705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984) (“In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification.”)

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 1. Specifically, Kloess et al. '618 merely discloses a fuel tank assembly for a motor vehicle having a cover element generally covering an opening and including a cylindrical portion and a flange which is integral with the cylindrical portion and which extends substantially radially outward and beyond the cylindrical portion. Kloess et al. '618 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. In Kloess et al. '618, there is no fuel permeation barrier layer on the cover element.

Abu-Isa '357 merely discloses a fuel permeation barrier fuel tank having base walls, side walls, and flanges formed from a plurality of layers in which a third layer is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. Abu-Isa '357 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. In Abu-Isa '357, the barrier layer is not used for a fuel module cover and there is no teaching that it could be disposed between a base wall and a raised portion within a skirt of a fuel module cover. As such, there is no motivation in the art to combine Kloess et al. '618 and Abu-Isa '357 together.

There is absolutely no teaching of a level of skill in the fuel tank art that a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. The Examiner may not, because he/she doubts that the invention is patentable, resort to speculation, unfounded

assumptions or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F. 2d 1011, 154 U.S.P.Q. 173 (C.C.P.A. 1967).

Even if these references could be combined, neither teaches a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Applicants are not attacking the references individually, but are clearly pointing out that each reference is deficient and, if combined (although Applicants maintain that they are not combinable), the combination is deficient. The present invention sets forth a unique and non-obvious combination of a permeation barrier fuel module cover assembly that uses a barrier layer, which provides for performance enhancement in permeation of polymer covers used on fuel modules by reducing the surface area through which hydrocarbons can escape. The references, if combinable, fail to teach or suggest the combination of a permeation barrier fuel module cover assembly including a cover having a base wall, a raised portion extending axially from the base wall, a skirt extending axially from the base wall opposite the raised portion with the base wall extending radially outwardly beyond the skirt and is attached to a fuel tank, and a fuel permeation barrier layer to cover a surface area inside of the skirt to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt as claimed by Applicants. The Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 1 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. § 103.

As to claim 12, claim 12, as amended, clarifies the invention claimed as a permeation barrier fuel module cover assembly for a fuel tank of a vehicle including a cover for a fuel module having a base wall and a skirt extending axially from the base wall. The base wall

extends radially outwardly beyond the skirt for attachment to the fuel tank. The permeation barrier fuel module cover assembly also includes a fuel permeation barrier layer attached to the cover inside of the skirt to cover a surface area inside of the skirt to retard permeation of fuel through the cover. The fuel permeation barrier layer is molded into the cover and disposed within the skirt. The permeation barrier fuel module cover assembly further includes a blade terminal molded into the cover and extending above the raised portion and below the base wall.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 12. Specifically, Kloess et al. '618 merely discloses a fuel tank assembly for a motor vehicle having a cover element generally covering an opening and including a cylindrical portion and a flange which is integral with the cylindrical portion and which extends substantially radially outward and beyond the cylindrical portion. Kloess et al. '618 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Kloess et al. '618 also lacks a blade terminal molded into a cover and extending above a raised portion and below a base wall of the cover. In Kloess et al. '618, there is no fuel permeation barrier layer on the cover element or a blade terminal molded into and extending above and below the cover element.

Abu-Isa '357 merely discloses a fuel permeation barrier fuel tank having base walls, side walls, and flanges formed from a plurality of layers in which a third layer is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. Abu-Isa '357 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area inside of a skirt of the cover to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Abu-Isa '357 also

lacks a blade terminal molded into a cover and extending above a raised portion and below a base wall of the cover. In Abu-Isa '357, the barrier layer is not used for a fuel module cover and there is no teaching that it could be disposed between a base wall and a raised portion within a skirt of a fuel module cover or a blade terminal molded into and extending above and below the cover. As such, there is no motivation in the art to combine Kloess et al. '618 and Abu-Isa '357 together.

The present invention sets forth a unique and non-obvious combination of a permeation barrier fuel module cover assembly that uses a barrier layer, which provides for performance enhancement in permeation of polymer covers used on fuel modules by reducing the surface area through which hydrocarbons can escape. The references, if combinable, fail to teach or suggest the combination of a permeation barrier fuel module cover assembly for a fuel tank of a vehicle including a cover for a fuel module having a base wall and a skirt extending axially from the base wall, the base wall extending radially outwardly beyond the skirt for attachment to the fuel tank, a fuel permeation barrier layer attached to the cover inside of the skirt to cover a surface area inside of the skirt to retard permeation of fuel through the cover, the fuel permeation barrier layer being molded into the cover and disposed within the skirt, and a blade terminal molded into the cover and extending above the raised portion and below the base wall as claimed by Applicants. The Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 12 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. § 103.

As to claim 20, claim 20, as amended, clarifies the invention claimed as a fuel tank assembly including a fuel tank having an opening and a plastic fuel module cover covering the opening and having a base wall, a raised portion extending axially from the base wall and radially across the base wall, and a skirt extending axially from the base wall opposite the raised

portion. The base wall extends radially outwardly beyond the skirt and is attached to the fuel tank. The fuel tank assembly also includes a fuel permeation barrier layer molded into the fuel module cover and disposed between the base wall and the raised portion within the skirt to cover a surface area inside of the skirt to retard permeation of fuel through the fuel module cover. The fuel permeation barrier layer is made from a material of one of a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE) and has a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters. The fuel tank assembly further includes a blade terminal molded into the cover and extending above the raised portion and below the base wall.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 20. Specifically, the Kloess et al. '618 merely discloses a fuel tank assembly for a motor vehicle having a cover element generally covering an opening and including a cylindrical portion and a flange which is integral with the cylindrical portion and which extends substantially radially outward and beyond the cylindrical portion. Kloess et al. '618 lacks a fuel tank having an opening and a cover covering the opening and having a base wall, a raised portion extending axially from the base wall, a skirt extending axially from the base wall opposite the raised portion with the base wall extending radially outwardly beyond the skirt and is attached to a fuel tank, and a fuel permeation barrier layer to cover a surface area inside of the skirt to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Kloess et al. '618 also lacks a fuel tank having a fuel permeation barrier layer made from a material of one of a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE) and has a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters, and a blade terminal molded into a cover and

extending above a raised portion and below a base wall of the cover. In Kloess et al. '618, there is no raised portion on the cover element, a fuel permeation barrier layer on the cover element, or a blade terminal molded into and extending above and below the cover. Further, in Kloess et al. '618, there is no specific materials or thickness disclosed for a fuel permeation barrier layer or where it would be located.

Abu-Isa '357 merely discloses a fuel permeation barrier fuel tank having base walls, side walls, and flanges formed from a plurality of layers in which a third layer is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. Abu-Isa '357 lacks a fuel tank having an opening and a cover covering the opening and having a base wall, a raised portion extending axially from the base wall, a skirt extending axially from the base wall opposite the raised portion with the base wall extending radially outwardly beyond the skirt and is attached to a fuel tank, and a fuel permeation barrier layer to cover a surface area inside of the skirt to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt. Abu-Isa '357 also lacks a fuel tank having a cover with a fuel permeation barrier layer being made from a material of one of a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE) and having a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters, and a blade terminal molded into the cover and extending above a raised portion and below a base wall of the cover. In Abu-Isa '357, the barrier layer is not used for a fuel module cover and there is no teaching that it could be disposed between a base wall and a raised portion within a skirt of a fuel module cover. Further in Abu-Isa '357, there is no blade terminal molded into and extending above and below a cover. As such, there is no motivation in the art to combine Kloess et al. '618 and Abu-Isa '357 together.

The present invention sets forth a unique and non-obvious combination of a permeation barrier fuel module cover assembly that uses a barrier layer, which provides for performance enhancement in permeation of polymer covers used on fuel modules by reducing the surface area through which hydrocarbons can escape. The references, if combinable, fail to teach or suggest the combination of a fuel tank assembly including a fuel tank having an opening, a cover covering the opening and having a base wall, a raised portion extending axially from the base wall, a skirt extending axially from the base wall opposite the raised portion with the base wall extending radially outwardly beyond the skirt and is attached to a fuel tank, and a fuel permeation barrier layer to cover a surface area inside of the skirt to retard permeation of fuel through the cover with the fuel permeation barrier layer being disposed between the base wall and the raised portion within the skirt, the fuel permeation barrier layer being made from a material of one of a group comprising polyvinyl alcohol (PVOH), ethylene vinyl alcohol (EVOH), low carbon polyethylene (LCP), or polytetrafluoroethylene (PTFE) and having a thickness of approximately 0.2 millimeters to approximately 2.0 millimeters, and a blade terminal molded into the cover and extending above the raised portion and below the base wall as claimed by Applicants.

Further, the CAFC has held that “[t]he mere fact that prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification”. In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). The Examiner has failed to show how the prior art suggested the desirability of modification to achieve Applicants’ invention. The Examiner has failed to establish a case of prima facie obviousness. Therefore, it is respectfully submitted that claim 20 is allowable over the rejections under 35 U.S.C. § 103.

Obviousness under § 103 is a legal conclusion based on factual evidence (In re Fine, 837 F.2d 1071, 1073, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988), and the subjective opinion of the Examiner as to what is or is not obvious, without evidence in support thereof, does not suffice. Since the Examiner has not provided a sufficient factual basis, which is supportive of his/her position (see In re Warner, 379 F.2d 1011, 1017, 154 U.S.P.Q. 173, 178 (C.C.P.A. 1967), cert. denied, 389 U.S. 1057 (1968)), the rejection of claims 1 and 5 through 20 is improper. Therefore, it is respectfully submitted that claims 1, 5 through 14, and 18 through 20 are allowable over the rejection under 35 U.S.C. § 103.

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

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